

REMARKS

Present Status of Claims

Claims 1-26 were pending.

Claims 1-20, 23-26 were allowed.

Claims 21, 22 were rejected.

By this response, please **amend** claims 21 and 22.

35USC112

Claim 22 was rejected under 35USC112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicants regard as the invention. The Examiner stated that it is not clear that the first conductive line connected to the reference layer, and the second conductive line having a gap, the gap being filled by a portion of the reference layer. Claim 22 has been amended in line 9 changing “the first conductive write line” to “the second conductive write line”.

35USC102(b)

The Examiner rejected claim 21 under 35USC102(e) as being anticipated by Kajiyama (US Patent 6,807,086).

The Examiner Stated:

“Kajiyama disclosed in Fig. 16 a magnetic random access memory array having a plurality of portions (unnumbered); each portion includes a plurality of MTJ elements [10] on top of a substrate (column 17, lines 31-37). Kajiyama disclosed in each portion, a first conductive line [11A] functioning as a read line is connected to the pin layer of the MTJ element [10]. As shown in Fig. 16, the conductive line [11A] is coupled to all of the MTJ cells [10] (column 17, lines 60-64), and furthermore, the two middle portions of the MRAM array would be

considered as adjacent to each other since there is no write line [13] in between the portions.

Kajiyama [US Patent 6,807,086]

Kajiyama provides MTJ elements that are accumulated in a plurality of portions on a semiconductor substrate. A first conductive line functioning as a read line extending in the X direction is connected to pin layers of the MTJ elements. A second conductive line functioning as a write line and read line and extending in the X direction is connected to free layers of the MTJ elements. A write line extends in the Y direction and is shared with two MTJ elements present above and below the write line. The two MTJ elements present above and below the write line are arranged symmetric to the write line. The Examiner references Fig. 16, which shows a cell array section of a magnetic random access memory. A plurality of MTJ elements accumulated in a plurality of portion present in one column are collectively connected to one sense amplifier. The write line 13 is arranged between (**not connected to**) two MTJ elements 10 adjacent in the vertical direction, and extends in the Y direction.

Amended claim 21 includes the following features:

a first group of magnetic memory cells, the first group comprising:

a first group first layer formed adjacent to a substrate, the first layer comprising a first plurality of magnetic memory cells;

a first group second layer formed adjacent to the first layer, the second layer comprising a second plurality of magnetic memory cells; and

a common first group conductor connected to each of the first plurality of magnetic memory cells and the second plurality of magnetic memory cells; wherein write current conducting through the common first conductor can provide writing to the first plurality of magnetic memory cells and the second plurality of magnetic memory cells.

(Emphasis added)

Support for the amendment can be found on page 10, line 23 to page 11 line 2 of the specification, which states “In a second embodiment, the primary function of current flowing through common conductor 840 is to provide a magnetic field H_y to the sense layer of the magnetic memory cell 811. In this embodiment, the magnetic memory cell 811 is selected for writing by a combination of magnetic field H_x from current flowing through conductive line 812, and the magnetic field H_y resulting from current flowing through common conductor 840 and the sense layer of the memory cell 811. The combination of the H_x and H_y fields provides a sufficient magnetic field to switch the magnetic state of the memory cell, whereas the H_x or H_y fields alone cannot switch the state of the memory cell. The dependence of the switching field on H_x and H_y fields is shown in Figure 9b.”

The courts have ruled that “A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference. “Verdegall Bros. v. Union Oil Co. of California, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). Also, “The identical invention must be shown in as complete detail as is contained in the ... claim.” Richardson v. Suzuki Motor Co., 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989).

As described above, Kajiyama includes a separate write line that is not connected to any of the MTJs. The conductive lines that are connected to multiple layers of MTJs 11A, 12A are connected to one sense amplifier. Therefore, these conductive lines 11A, 12A are used for reading only. The conductive lines 11A, 12A do not provide any writing functionality. As stated in column 18, lines 17-23, “... one ends of the conductive lines 11A are commonly connected and the connecting points thereof are connected to one sense amplifier S/A. Further, one ends of the second conductive lines 12A are commonly connected, and the connecting points thereof are connected to one switching element 14. Kajiyama does not teach a common first group conductor connected to each of the first plurality of magnetic memory cells and the second plurality of magnetic memory cells, wherein write current conducting through the common first conductor can provide writing to the first plurality of magnetic memory cells and the

second plurality of magnetic memory cells. Claim 21 is patentable over the cited prior art.

Claims 1-20, 23-26 have been allowed.

Claim 22 has been amended to overcome the 35USC112 rejection, and should be allowable.

No new matter has been added by these amendments.

CONCLUSION

For the reasons given above, and after careful review of all the cited references, Applicant respectfully submits that none of the cited references, nor any combination of the cited references, will result in, teach or suggest Applicant's Claimed invention. But even if any such combination might arguably result in such Claimed invention, it is submitted that such combination would be non-obvious and patentable.

In view of the above Amendments and Remarks, Applicant has addressed all issues raised in the Office Action dated 02/07/2005, and respectfully solicits a Notice of Allowance for Claims 1-26. Should any issues remain, the Examiner is encouraged to telephone the undersigned attorney.

It is believed that all of the pending Claims have been addressed. However, the absence of a reply to a specific rejection, issue or comment does not signify agreement with or concession of that rejection, issue or comment. In addition, because the arguments made above may not be exhaustive, there may be reasons for patentability of any or all pending Claims (or other Claims) that have not been expressed. Finally nothing in this paper should be construed as an intent to concede any issue with regard to any Claim, except as specifically stated in this paper, and the amendment of any Claim

does not necessarily signify concession of unpatentability of the Claim prior to its amendment.

Applicant believes that no fees are currently due; however, should any fee be deemed necessary in connection with this Amendment and Response, the Commissioner is authorized to charge deposit account 08-2025, referencing the Attorney docket number 200313717-1.

Respectfully submitted,

By: Brian Short
Brian Short, Attorney for Applicants
Reg. No. 41,309
Date: March 14, 2005
Ph. No.: 650-236-4890

Hewlett-Packard Company
Intellectual Property Section
1501 Page Mill Rd. M/S 1197 (4U-10)
Palo Alto, CA 94304-1112